

ABSTRACT OF THE DISCLOSURE

A temperature sensor (33) detects the temperature of a MOS transistor (7), and a current detecting circuit (35) detects current flowing in the MOS transistor (7). When the voltage corresponding to the detected temperature or the voltage corresponding to the detected current is increased to a threshold value or more, an overheat state detecting signal and further switching signal is set to a high level. As a result, a switch circuit in a driving circuit (17) is turned on, and the gate resistance value becomes the parallel value of a resistor (25), and the PWM frequency in the PWM control circuit is lowered, whereby the switching loss of the MOS transistor (7) can be reduced under the state that the motor (2) is rotated.